In re Patent Application of:
PROCTOR, JR.
Serial No. **10/761,130**
Filing Date: **January 20, 2004**
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In the Specification:

Please replace the paragraph beginning at page 1, line 4, with the following rewritten paragraph:

This application is a continuation of Application No. 09/730,376, filed December 5, 2000, now U.S. Patent No. 6,707,804, which is a continuation of Application No. 09/088,413, filed June 1, 1998, now U.S. Patent No. 6,222,832~~, which is a continuation-in-part of Application No. 08/992,760, filed December 17, 1997, and a continuation-in-part of Application No. 08/992,759, filed December 17, 1997, and a continuation-in-part of Application No. 09/030,049, filed February 24, 1998~~. The entire teachings of the above applications are incorporated herein by reference.

Please replace the paragraph beginning at page 2, line 8, with the following rewritten paragraph:

There still is no widely available satisfactory solution for providing low cost, broad geographical coverage, high speed access to the Internet, private intranets, and other networks using the existing wireless infrastructure. This situation is most likely an artifact of several unfortunate circumstances. For one, the typical manner of providing high speed data service in the business environment over the wireline network is not readily adaptable to the voice grade service available in most homes or offices. Such standard high speed data services also do not lend themselves well to efficient transmission over standard cellular wireless handsets. Furthermore, the existing cellular network was

originally designed only to deliver voice services. As a result, the emphasis in present day digital wireless communication schemes lies with voice, although certain schemes such as CDMA do provide some measure of asymmetrical behavior for the accommodation of data transmission. For example, the data rate on an IS-95 forward traffic channel can be adjusted in increments from 1.2 kbps up to 9.6 kbps for so-called Rate Set 1 and in ~~for~~ increments from 1.8 kbps up to 14.4 kbps for Rate Set 2.

Please replace the paragraph beginning at page 3, line 5, with the following rewritten paragraph:

Although such networks were known at the time that cellular systems were originally deployed, for the most part, there is no provision for providing higher speed ISDN- or xDSL-grade data services over cellular network topologies. Unfortunately, in wireless environments, access to channels by multiple subscribers is expensive and there is competition for them. Whether the multiple access is provided by the traditional Frequency Division Multiple Access (FDMA) using analog modulation on a group of radio carriers, or by newer digital modulation schemes ~~the~~ that permit sharing of a radio carrier using Time Division Multiple Access (TDMA) or Code Division Multiple Access (CDMA), the nature of the radio spectrum is that it is a medium that is expected to be shared. This is quite dissimilar to the traditional environment for data transmission, in which the wireline medium is relatively inexpensive to obtain, and is therefore not typically intended to be shared.

Please replace the paragraph beginning at page 10, line 20, with the following rewritten paragraph:

In order to better understand how bandwidth management 134 and 174 accomplish the dynamic allocation of radio channels, turn attention now to FIG. 2. This figure illustrates one possible frequency plan for the wireless links 160 according to the invention. In particular, a typical transceiver 170 can be tuned on command to any 1.25 MHz channel within a much larger bandwidth, such as up to 30 MHz. In the case of location in ~~an~~ existing cellular radio frequency bands, these bandwidths are typically made available in the range of from 800 to 900 MHz. For personal communication systems (PCS) type wireless systems, the bandwidth is typically allocated in the range from about 1.8 to 2.0 GigaHertz (GHz). In addition, there are typically two matching bands active simultaneously, separated by a guard band, such as 80 MHz; the two matching bands form forward and reverse full duplex link.

Please replace the paragraph beginning at page 12, line 19, with the following rewritten paragraph:

In the above mentioned channel allocation scheme, radio resources are expected to be allocated on an as-needed basis. However, consideration must also be given to the fact that normally, in order <u>to</u> set up a new CDMA channel, a given reverse link channel must be given time to acquire code phase lock at the receiver. The present invention avoids the need to wait for each channel to acquire code phase lock each time that it is set up by several mechanisms which are ~~deseribe~~

described more fully below. In general, the technique is to send a maintenance signal at a rate which is sufficient to maintain code phase lock for each subchannel even in the absence of data.

Please replace the paragraph beginning at page 14, line 3, with the following rewritten paragraph:

In the preferred embodiment, the system 100 is intended to support so-called nomadic mobility. That is, high mobility operation within moving vehicles typical of cellular telephony is not expected to be necessary. Rather, the typical user of a portable computer who is active is moving at only brisk walking speeds of about 4.5 miles per hour (MPH). At 4.5 MPH, corresponding to a velocity of 6.6 feet per second, a user will move 101 feet in 1/8 of the 1/1.2288 MHz chip time (Tc). Therefore, it will take about 101 feet divided by 6.6 feet, or about 15 seconds for such a user to ~~move distance~~ move a distance which is sufficiently far for him to a point where the code phase synchronization loop cannot be guaranteed to remain locked. Therefore, as long as a complete synchronization signal is sent for a given reverse link channel every 15 seconds, the reverse link loop will therefore remain in lock.

Please replace the paragraph beginning at page 14, line 25, with the following rewritten paragraph:

Prior to entering the Active state ~~4050~~ 450 from Idle mode 400, the subscriber unit must make a request to the base station. If granted, (step 403-b), processing proceeds to

step 451, and if not granted, processing proceeds to step 402. However, the subscriber unit knows that it is assigned code phase channels in a predetermined relationship to the code phase channel of its fundamental channel, i.e.,

$$P_{n+1}=\mathcal{F}\ \{P_o\}$$

where P_{n+1} is the code phase for the new channel (n+1), and P_o is the code phase assigned to the fundamental channel for the particular subscriber. Such a code phase relationship $\mathcal{F}$ may be, for example, to select uniformly from the available 2^{42} codes, every $2^{42}/2^{10}$'th or every 2^{32}'th code phase in a system which is supporting 1024 (2^{10}) reverse links, for a single subscriber.

Please replace the paragraph beginning at page 15, line 10, with the following rewritten paragraph:

After step 452 is processed, a request is made for code phase channels. If granted (step 452-b), processing proceeds to step 453, and if not granted, processing proceeds to step 451 in order to process the additional channel requests. In a next state 453, the subscriber unit begins transmitting its data on its assigned code phase channels. In state 454, it continues to monitor its internal data buffers and its associated forward access channel to determine when to return to the idle mode 400, ~~to to state~~ to state 451, to determine if new code phase channels must be assigned, or to state 455, where they are deallocated.

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Please delete the following paragraph beginning at page 17, line 1 in its entirety:

~~While this invention has been particularly shown and described with references to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the scope of the invention encompassed by the appended claims.~~